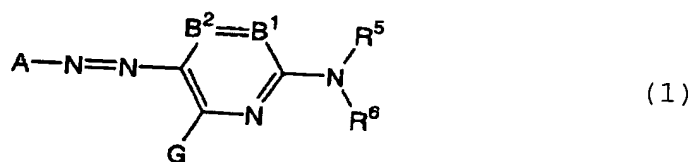


WHAT IS CLAIMED IS:

1. An ink for ink jet recording comprising:  
at least one dye represented by the following general formula (1), in which the at least one dye is dissolved or dispersed in an aqueous medium; and  
a betaine surfactant,  
wherein, when the ink has been shaken 30 times or more for 10 seconds and allowed to stand for 3 minutes, a bubble height in the ink is 30 mm or less:

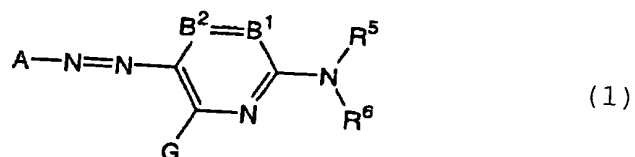


wherein A represents a five-membered heterocyclic group; B<sup>1</sup> and B<sup>2</sup> each represents =N-, =CR<sup>1</sup>- or -CR<sup>2</sup>=, and when one thereof represents =N-, the other represents =CR<sup>1</sup>- or -CR<sup>2</sup>=; R<sup>5</sup> and R<sup>6</sup> each independently represents a hydrogen atom or a substituent group, wherein the substituent group represents an aliphatic group, an aromatic group, a heterocyclic group, an acyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, a carbamoyl group, an alkylsulfonyl group, an arylsulfonyl group or a sulfamoyl group, and a hydrogen atom of each substituent group may be substituted; G, R<sup>1</sup> and R<sup>2</sup> each independently represents a hydrogen atom or a substituent group, wherein the substituent

group represents a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, a carboxyl group, a carbamoyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a heterocyclic oxycarbonyl group, an acyl group, a hydroxyl group, an alkoxyl group, an aryloxy group, a heterocyclic oxy group, a silyloxy group, an acyloxy group, a carbamoyloxy group, an alkoxycarbonyloxy group, an aryloxy carbonyloxy group, an amino group, an acylamino group, a ureido group, a sulfamoylamino group, an alkoxycarbonylamino group, an aryloxy carbonylamino group, an alkylsulfonylamino group, an arylsulfonylamino group, a heterocyclic sulfonylamino group, a nitro group, an alkylthio group, an arylthio group, a heterocyclic thio group, an alkylsulfonyl group, an arylsulfonyl group, a heterocyclic sulfonyl group, an alkylsulfinyl group, an arylsulfinyl group, a heterocyclic sulfinyl group, a sulfamoyl group or a sulfo group, and a hydrogen atom of each substituent group may be substituted; and  $R^1$  and  $R^5$ , or  $R^5$  and  $R^6$  may combine with each other to form a five- or six-membered ring.

2. An ink for ink jet recording comprising:
  - at least one dye represented by the following general formula (1), in which the at least dye is dissolved or dispersed in an aqueous medium; and
  - a betaine surfactant,

wherein a bubble height in the ink just after the ink has been shaken 30 times or more for 10 seconds, is 50 mm or less:

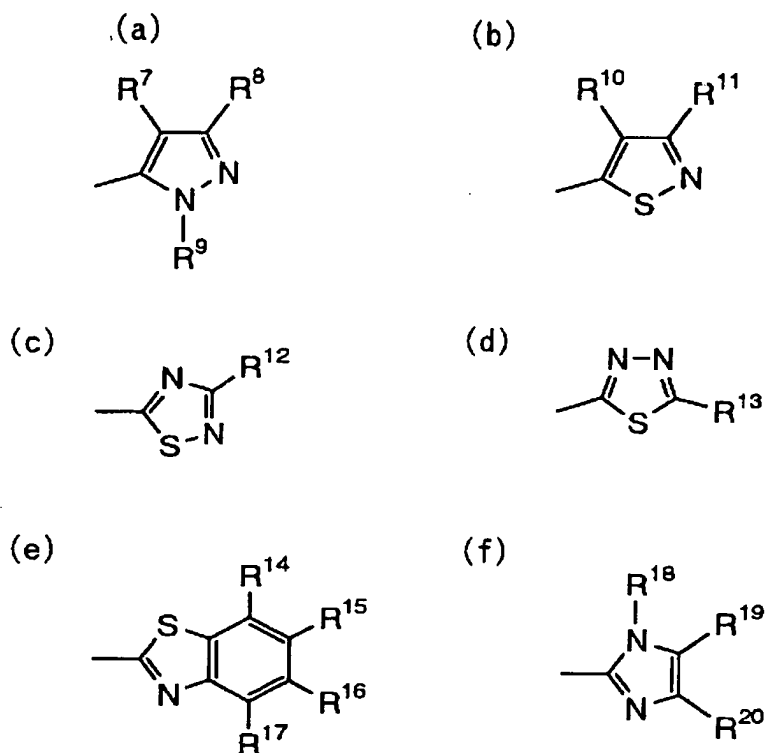


wherein A represents a five-membered heterocyclic group; B<sup>1</sup> and B<sup>2</sup> each represents =N-, =CR<sup>1</sup>- or -CR<sup>2</sup>=, and when one thereof represents =N-, the other represents =CR<sup>1</sup>- or -CR<sup>2</sup>=; R<sup>5</sup> and R<sup>6</sup> each independently represents a hydrogen atom or a substituent group, wherein the substituent group represents an aliphatic group, an aromatic group, a heterocyclic group, an acyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a carbamoyl group, an alkylsulfonyl group, an arylsulfonyl group or a sulfamoyl group, and a hydrogen atom of each substituent group may be substituted; G, R<sup>1</sup> and R<sup>2</sup> each independently represents a hydrogen atom or a substituent group, wherein the substituent group represents a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, a carboxyl group, a carbamoyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a heterocyclic oxycarbonyl group, an acyl group, a hydroxyl group, an alkoxyl group, an aryloxy group, a heterocyclic oxy group, a silyloxy group, an acyloxy group, a

carbamoyloxy group, an alkoxycarbonyloxy group, an aryloxy carbonyloxy group, an amino group, an acylamino group, a ureido group, a sulfamoylamino group, an alkoxycarbonylamino group, an aryloxy carbonylamino group, an alkylsulfonylamino group, an arylsulfonylamino group, a heterocyclic sulfonylamino group, a nitro group, an alkylthio group, an arylthio group, a heterocyclic thio group, an alkylsulfonyl group, an arylsulfonyl group, a heterocyclic sulfonyl group, an alkylsulfinyl group, an arylsulfinyl group, a heterocyclic sulfinyl group, a sulfamoyl group or a sulfo group, and a hydrogen atom of each substituent group may be substituted; and  $R^1$  and  $R^5$ , or  $R^5$  and  $R^6$  may combine with each other to form a five- or six-membered ring.

3. The ink for ink jet recording according to claim 1 or 2, wherein A in the formula (1) represents a pyrazole ring, an imidazole ring, a thiazole ring, an isothiazole ring, a thiadiazole ring, a benzothiazole ring, a benzoxazole ring or a benzoisothiazole ring, each of which may have a substituent group.

4. The ink for ink jet recording according to claim 1 or 2, wherein A in the formula (1) is a pyrazole ring, an imidazole ring, an isothiazole ring, a thiadiazole ring or a benzothiazole ring, represented by the following general formulae (a) to (f):



wherein  $R^7$  to  $R^{20}$  each has the same definition as with G,  $R^1$  and  $R^2$  in the general formula (1).

5. The ink for ink jet recording according to claim 1 or 2, wherein, when the dye represented by the formula (1) is a water-soluble dye, the dye represented by the formula (1) further has an ionic hydrophilic group as a substituent group at any position of  $R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and G, and the ionic hydrophilic groups is at least one of a sulfo group, a carboxyl group, a phosphono group and a quaternary ammonium group.

6. The ink for ink jet recording according to claim 1 or 2, wherein the betaine surfactant is a compound having both a cationic site and an anionic site in its molecule and having surface activity, in which the cationic sites include at least one of a nitrogen atom of an amine, a nitrogen atom of a heteroaromatic ring, a phosphorus atom and a boron atom having four bonds with carbon.

7. The ink for ink jet recording according to claim 1 or 2, which comprises the betaine surfactant in an amount of 0.001 to 50 wt%.

8. The ink for ink jet recording according to claim 1, wherein a bubble height in the ink just after the ink has been shaken 30 times or more for 10 seconds, is 50 mm or less.

9. The ink for ink jet recording according to claim 1 or 2, which further comprises an antifoaming agent that is a compound itself existing on a liquid surface in place of a causative substance of foaming, and having no ability to give repulsive force resistant to thinning of a bubble film for itself, in which the antifoaming agent is at least one of alcohols, ethers, fatty acid esters, metal soaps, phosphates, silicones and nonionic surfactants.

10. The ink for ink jet recording according to claim 9, which further comprises the antifoaming agent in amount of 0.001 to 5 wt%.

11. The ink for ink jet recording according to claim 1 or 2, wherein the ink is prepared by applying a sonic vibration with energy equivalent to or higher than that of receiving at a recording head, during the process of producing the ink, in order to prevent bubbles from being generated by pressure applied to the ink at the recording head.

12. The ink for ink jet recording according to claim 1 or 2, wherein the ink is filtrated after an ink solution preparation by a filter having an effective diameter of 1  $\mu\text{m}$  or less.

13. An ink jet recording process comprising using the ink for ink jet recording according to claim 1 or 2.

14. An ink jet recording process comprising:  
ejecting ink droplets depending on a recording signal onto an image-receiving material comprising a support having provided thereon an image-receiving layer that includes white inorganic pigment particles; and

recording an image on the image-receiving material,

wherein the ink droplets comprise the ink for ink jet recording according to claim 1 or 2.

15. The ink jet recording process according to claim 14, wherein the support is a chemical pulp, a mechanical pulp or a used paper pulp.

16. The ink jet recording process according to claim 14, wherein the white inorganic pigment particles is at least one of calcium carbonate, kaolin, talc, clay, diatomaceous earth, synthetic amorphous silica, aluminum silicate, magnesium silicate, calcium silicate, aluminum hydroxide, alumina, lithopone, zeolite, barium sulfate, calcium sulfate, titanium dioxide, zinc sulfide or zinc carbonate.

17. The ink jet recording process according to claim 14, wherein an image-receiving material further comprises a back coat layer including a white pigment and an aqueous binder.